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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,627	11/12/2003	David A. Bolt	18504/354	2139

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EXAMINER	
MCCARTHY, CHRISTOPHER S	

ART UNIT	PAPER NUMBER
2113	

DATE MAILED: 04/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/712,627	BOLT ET AL.	
	Examiner	Art Unit	
	Christopher S. McCarthy	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/8/04;6/25/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Sims, III et al. U.S. Patent 6,212,647.

As per claim 1, Sims teaches a method in a computer system for relocating defective sectors on a formatted disk, comprising: performing standard data processing of a plurality of logical sectors that are mapped to a first plurality of physical sectors (column 3, lines 50-61; column 15, lines 25-27), wherein the first plurality of physical sectors reside in a first area of the formatted disk (column 11, lines 53-58), and wherein each of the first plurality of physical sectors for which an error is encountered while performing standard data processing is identified as a defective sector (column 15, lines 25-27); storing defect information in a memory for each of the defective sectors that are mapped to by the plurality of logical sectors (column 11, lines 59-65); performing a seek command to a second area of the formatted disk (column 4, lines 38-41); and performing relocation, upon completion of performing standard data processing and storing defect information, based on the defect information stored in the memory (column 16,

lines 20-35), wherein the relocation includes re-mapping the plurality of logical sectors, that were mapped to defective sectors, to a second plurality of physical sectors, wherein the second plurality of physical sectors reside in the second area of the formatted disk (column 11, line 59 – column 12, line 4).

As per claim 2, Sims teaches the method of claim 1 wherein the standard data processing includes a read command, a write command, or a verify command (column 15, lines 25-28).

As per claim 3, Sims teaches the method of claim 1 wherein the defect information includes logical to physical sector mapping (column 11, line 59 – column 12, line 4).

As per claim 4, Sims teaches the method of claim 1 wherein the defect information includes data that the standard data processing attempted to write in one of the defective sectors (column 15, lines 25-28).

As per claim 5, Sims teaches the method of claim 1 wherein the first area of the formatted disk is a prime disk area (column 11, lines 53-56, wherein the user data area is deemed as the prime area since it is the area initially set up as the user data area before the spare areas are utilized).

As per claim 6, Sims teaches the method of claim 1 wherein the second area of the formatted disk is a defect management area (column 11, lines 25-27).

As per claim 7, Sims teaches a method in a computer system for relocating defective sectors on a formatted disk, comprising: performing standard data processing in a first area of the formatted disk, wherein the first area of the formatted disk includes a first plurality of physical sectors (column 3, lines 50-61; column 15, lines 25-27; column 11, lines 53-58); storing defect information in a memory for each of the first plurality of physical sectors that are identified as

defective during the standard data processing (column 11, lines 59-65); and performing relocation, upon completion of performing standard data processing and storing defect information, for the first plurality of physical sectors that are identified as defective to a second area of the formatted disk, wherein the second area of the formatted disk includes a second plurality of physical sectors, and wherein the relocation performed is based on the defect information stored in the memory (column 16, lines 20-35).

As per claim 8, Sims teaches the method of claim 7 wherein the standard data processing includes a read command, a write command, or a verify command (column 15, lines 25-28).

As per claim 9, Sims teaches the method of claim 7 wherein the defect information includes an address of a logical sector that is mapped to one of the first plurality of physical sectors that is identified as defective (column 11, line 59 – column 12, line 4).

As per claim 10, Sims teaches the method of claim 7 wherein the defect information includes data that the standard data processing attempted to write or verify in one of the first plurality of physical sectors that is identified as defective (column 15, lines 25-28).

As per claim 11, Sims teaches the method of claim 7 wherein performing relocation includes dynamic sector relocation (column 3, lines 31-36, wherein the examiner interprets the changeability of the parameters of Sims as dynamic, in that, it can be changed by the discretion of the user according to the changing circumstances).

As per claim 12, Sims teaches the method of claim 7 wherein performing relocation includes re-mapping a logical sector from one of the first plurality of physical sectors that is identified as defective to one of the second plurality of physical sectors (column 6, lines 24-29).

As per claim 13, Sims teaches the method of claim 7 wherein performing relocation includes re-mapping the plurality of logical sectors from the plurality of the first physical sectors that are identified as defective to the second plurality of physical sectors (column 6, lines 24-29).

As per claim 14, Sims teaches the method of claim 7 wherein the first area of the formatted disk is a prime disk area (column 11, lines 53-56).

As per claim 15, Sims teaches the method of claim 7 wherein the second area of the formatted disk is a defect management area (column 11, lines 25-27).

As per claim 16, Sims teaches the method of claim 7 wherein performing relocation includes calling a single seek-process (column 4, lines 38-41).

As per claim 17, Sims teaches the method of claim 16 wherein the single seek-process is directed to the second area of the formatted disk (column 4, lines 38-41).

As per claim 18, Sims teaches the method of claim 7 wherein a time penalty required for performing relocation is substantially a constant time (column 3, lines 39-42, wherein "a single time" is interpreted as a constant time).

As per claim 19, Sims teaches a method in a computer system for relocating bad sectors on a formatted disk, comprising: processing data in a first area of the formatted disk (column 15, lines 25-27); storing defect information in a memory for a plurality of defective sectors identified during data processing for subsequent relocation (column 11, lines 59-65); and relocating the plurality of defective sectors based on the defect information to a second area of the formatted disk upon completion of data processing (column 16, lines 20-35).

As per claim 20, Sims teaches the method for relocating bad sectors on a formatted disk of claim 19 wherein the defect information includes the data that the processing step attempted to write in the plurality of defective sectors (column 15, lines 25-27).

As per claim 21, Sims teaches the method for relocating bad sectors on a formatted disk of claim 19 wherein the defect information includes logical to physical sector mapping (column 11, line 59 – column 12, line 4).

As per claim 22, Sims teaches the method for relocating bad sectors on a formatted disk of claim 19 wherein the second area of the formatted disk is a defect management area (column 11, lines 25-27).

As per claim 23, Sims teaches the method for relocating bad sectors on a formatted disk of claim 19 wherein relocating the bad sectors includes calling a single seek-process (column 4, lines 38-41).

As per claim 24, Sims teaches the method for relocating bad sectors on a formatted disk of claim 23 wherein the single seek-process is directed to the second area of the formatted disk (column 4, lines 38-41).

As per claim 25, Sims teaches the method for relocating bad sectors on a formatted disk of claim 19 wherein a time penalty required for relocating the bad sectors is substantially a constant time (column 3, lines 39-42).

As per claim 26, Sims teaches a method in a data storage system for responding to a request from a host computer for data processing and managing defective sectors on a data storage medium, comprising: performing the data processing tasks as requested by the host computer in a first area of the storage media, including the storage in memory of defect

information and the related data processing task when a defective sector of the media is encountered (column 15, lines 25-27); and relocating the stored data processing task to a second area of the storage media after completion of the data processing tasks in the first area (column 16, lines 20-35).

As per claim 27, Sims teaches the method of claim 26 wherein the data processing tasks including writing of data to the storage media (column 15, lines 25-27).

As per claim 28, Sims teaches the method of claim 26 wherein the data processing tasks including reading of data from the storage media (column 15, lines 25-27).

As per claim 29, Sims teaches the method of claim 26 wherein the data processing tasks including verifying of data to the storage media (column 4, lines 37-41, wherein the verification of relocated data is part of the write/read transaction determination of a defective sector).

As per claim 30, Sims teaches the method of claim 26 wherein relocating the stored data processing task includes re-mapping a logical sector of the data storage system from the first area to the second area (column 6, lines 24-29).

As per claim 31, Sims teaches the method of claim 26 wherein relocating the stored data processing task includes re-mapping a plurality of logical sectors of the data storage system from the first area to the second area (column 6, lines 24-29).

As per claim 32, Sims teaches the method of claim 26 wherein the first area is a prime disk area (column 11, lines 53-56).

As per claim 33, Sims teaches the method of claim 26 wherein the second area is a defect management area (column 11, lines 25-27).

As per claim 34, Sims teaches the method of claim 26 wherein relocating the stored data processing task includes calling a single seek-process (column 4, lines 38-41).

As per claim 35, Sims teaches the method of claim 34 wherein the single seek-process is directed to the second area (column 4, lines 38-41).

As per claim 36, Sims teaches the method of claim 26 wherein a time penalty required for relocating the stored data processing task is substantially a constant time (column 3, lines 39-42).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: See attached PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. McCarthy whose telephone number is (571)272-3651. The examiner can normally be reached on M-F, 9 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571)272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

csm
April 19, 2006

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